

REMARKS

The Examiner objected to the Abstract, requesting that a phrase therein be deleted. However, the noted phrase was deleted in the Preliminary Amendment filed with the application. Accordingly, it is believed that this objection is moot. The Examiner also objected to the specification, noting two typographical errors. The specification has been amended to correct such typographical errors.

New Independent Claim 12 defines the invention as a drive for cooling fans in motor vehicles. The drive includes a primary cooling circuit (3) including a primary cooler (4), a primary temperature sensor (23), at least two secondary cooling circuits (5, 6), a fluid friction clutch including driving and driven clutch members (9, 10) and a reservoir (17) for a viscous fluid. The reservoir (17) is limited by a separating member (18) and is connectable to a working chamber (19) by at least one first opening (20) in the separating member (18). The working chamber (19) extends into a region between the clutch members (9, 10) in which torque is transmitted from the driving clutch member (9) to the driven clutch member (10) by the viscous fluid. The filling of the working chamber (19) with viscous fluid is controlled by a first control element (21) opening and closing the first opening (20) in the separating member (18) depending on the temperature of the cooling air passing through the main cooler (4) sensed by the primary temperature sensor (23). Each of the at least two secondary cooling circuits (5, 6) includes a secondary temperature sensor (40, 41). The secondary temperature sensors (40, 41) are operatively connected to a control unit (39) arranged to control a second control element (31). The separating member (18) comprises at least one second opening (30), and the second control element (31) is arranged in the working chamber (19). The control unit (39) moves the second control element (31) to open and close the at least one second opening (30) in accordance with the temperature sensed by one or more of the secondary temperature sensors (40, 41) to control the filling of the working chamber (19) with the viscous fluid. Control of the second control element (31) is independent of control of the first control element (21).

The Examiner rejected Claim 1 under 35 U.S.C. 102(b) as being anticipated by the Tanaka reference and under 35 U.S.C. 103(a) as being obvious in view of the

Katoh et al. reference. New Claim 12 avoids both of these rejections. Neither of such references shows or suggests the use of at least two secondary cooling circuits (5, 6), wherein the at least two secondary cooling circuits (5, 6) include secondary temperature sensors (40, 41) that are operatively connected to a control unit (39) arranged to control a second control element (31) in accordance with the temperature sensed by one or more of the secondary temperature sensors (40, 41) to control the filling of the working chamber (19) with the viscous fluid, and wherein control of the second control element (31) is independent of control of the first control element (21). Thus, it is believed that new Claim 12 is patentable over such references.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Replace the paragraph beginning on Page 5, Line 15 with the following new paragraph:

The axial displacement of the control element [elements] 31 is attained by an actuation rod 33 extending through the hollow drive shaft 11 and an axial bore in the driving clutch unit 9 and being fixedly connected with the control element 31. The actuation rod 33 is supported at the driving clutch unit 9 by an appropriate rolling bearing 34, and it is moved into the right end position illustrated in Fig. 1 in which the openings 30 are free by the force of a biased pressure spring 36 being located between the rolling bearing 34 and a protrusion 35 of the actuation rod 33.

Replace the paragraph beginning on Page 6, Line 3 with the following new paragraph:

As illustrated in Fig. 3, an electronic circuit 39 controls the lifting magnet 38. The electronic circuit 39 processes signals coming from the temperature sensors 40, 41 in the secondary cooling circuits to be watched using an OR-operation. In this embodiment, two secondary cooling circuits 5, 6 [3] including the allocated secondary coolers 7, 8 are provided at the vehicle in addition to the main cooling circuit 3 including the main cooler 4. In case the vehicle for example is a farming tractor, the secondary cooling circuit 5 may serve to cool the oil of the transmission and the other secondary cooling circuit 6 may serve to cool hydraulic fluid. In both secondary cooling circuits 5, 6 there is the possibility of the fluid overheating when the fluid friction clutch only reacts to the temperature of the outgoing air of the main cooler 4, and when this temperature is too low to achieve an effect. Consequently, both secondary cooling circuits 5, 6 [each] include a temperature sensor.